

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
10 January 2002 (10.01.2002)

PCT

(10) International Publication Number  
**WO 02/002797 A3**

(51) International Patent Classification<sup>2</sup>: **C12N 15/53**,  
15/11, 15/62, 9/04, 5/10, C12Q 1/68, G01N 33/68, A61K  
31/7088, 39/39

(21) International Application Number: PCT/JP01/07632

(22) International Filing Date: 4 July 2001 (04.07.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/216,350 5 July 2000 (05.07.2000) US  
60/231,295 8 September 2000 (08.09.2000) US

(71) Applicant (for all designated States except US): **BAYER  
AKTIENGESELLSCHAFT** [DE/DE]; 51368 Lev-  
erkusen (DE).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **RAMAKRISHNAN,  
Shyam** [IN/US]; 76 Huston Road, Apt. #10, Brighton, MA  
02135 (US).

(74) Common Representative: **BAYER AKTIENGE-  
SELLSCHAFT**; 51368 Leverkusen (DE).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,  
SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA,  
ZW.

(84) Designated States (*regional*): ARIPO patent (GI, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian  
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European  
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,  
IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,  
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:  
27 February 2003

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: REGULATION OF HUMAN 11 BETA-HYDROXYSTEROID DEHYDROGENASE 1-LIKE ENZYME

(57) Abstract: Reagents which regulate human 11 beta-hydroxysteroid dehydrogenase 1-like enzyme and reagents which bind to human 11 beta-hydroxysteroid dehydrogenase 1-like enzyme gene products can play a role in preventing, ameliorating, or correcting dysfunctions or diseases including, but not limited to CNS disorders, osteoporosis, liver disease, obesity, blood pressure or fetal development abnormalities, and diabetes.

WO 02/002797 A3

## INTERNATIONAL SEARCH REPORT

Int onal Application No

PCT/EP 01/07632

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/53 C12N15/11 C12N15/62 C12N9/04 C12N5/10  
 C12Q1/68 G01N33/68 A61K31/7088 A61K39/395

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C12Q G01N A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EMBL, EPO-Internal, SEQUENCE SEARCH, BIOSIS, MEDLINE, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE EMBL 'Online! 11 November 1999 (1999-11-11) Database accession no. AW163684 XP002217921 cited in the application	1, 18-20
Y	abstract	2-17, 21-71
X	STEWART P M ET AL: "11BETA-HYDROXYSTEROID DEHYDROGENASE" VITAMINS AND HORMONES, ACADEMIC PRESS, NEW YORK, NY,, US, vol. 57, 1999, pages 249-324, XP001004592 ISSN: 0083-6729	13, 14, 68-71
Y	page 265 -page 269  page 284 -page 299 --- -/--	2-17, 21-71

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*G\* document member of the same patent family

Date of the actual completion of the international search

30 October 2002

Date of mailing of the international search report

12/11/2002

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
 NL - 2280 HV Rijswijk  
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
 Fax: (+31-70) 340-3016

Authorized officer

Schneider, P

## INTERNATIONAL SEARCH REPORT

Int. Patent Application No.

PCT/EP 01/07632

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>HULT M ET AL: "Selective inhibition of human type 1 11beta-hydroxysteroid dehydrogenase by synthetic steroids and xenobiotics"  FEBS LETTERS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL,  vol. 441, no. 1,  11 December 1998 (1998-12-11), pages 25-28, XP004258864  ISSN: 0014-5793  the whole document</p> <p>----</p>	
A	<p>KROZOWSKI ZYGMUNT: "The 11beta-hydroxysteroid dehydrogenases: Functions and physiological effects."  MOLECULAR AND CELLULAR ENDOCRINOLOGY, vol. 151, no. 1-2,  25 May 1999 (1999-05-25), pages 121-127, XP002217920  ISSN: 0303-7207  the whole document</p> <p>----</p>	
A	<p>US 5 965 372 A (KROZOWSKI ZYGMUNT S ET AL) 12 October 1999 (1999-10-12)  the whole document</p> <p>----</p>	
E	<p>WO 01 90090 A (BARF TJEERD ;BIOVITRUM AB (SE); EMOND RIKARD (SE); KURZ GUIDO (SE))  29 November 2001 (2001-11-29)  page 1 -page 5  page 26  page 45 -page 52  claims 6,9</p> <p>-----</p>	<p>11,13,  14,68-71</p>

# INTERNATIONAL SEARCH REPORT

national application No.  
PCT/EP 01/07632

## B x I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☒ Claims Nos.: 8, 13-15, 33, 52, 53, 60, 62, 68-71  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## B x II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

## Continuation of Box I.1

Although claims 8, 30, 31, 33 and 34 comprise a diagnostic method practised on the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition. Although claims 13, 16, 17, 52-57, 59 and 68-71 are directed to or comprise a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

## Continuation of Box I.2

Claims Nos.: 8, 13-15, 33, 52, 53, 60, 62, 68-71

Present claims 8, 13-15, 33, 52, 53, 60, 62 and 68-71 relate to a product/compound defined by reference to a desirable characteristic or property, namely a reagent that interacts with the claimed polypeptide or modulates its activity.

The claims cover all products/compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such products/compounds. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the product/compound by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the products/compounds antibody, antisense and ribozyme mentioned in the description at pages 27-34.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 01/07632

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5965372	A	12-10-1999	US	5883240 A	16-03-1999
			CA	2156976 A1	26-02-1997
<hr/>					
WO 0190090	A	29-11-2001	AU	6093101 A	03-12-2001
			AU	6093201 A	03-12-2001
			AU	6283001 A	03-12-2001
			AU	6283101 A	03-12-2001
			AU	6445601 A	03-12-2001
			WO	0190093 A1	29-11-2001
			WO	0190090 A1	29-11-2001
			WO	0190091 A1	29-11-2001
			WO	0190094 A1	29-11-2001
			WO	0190092 A1	29-11-2001
<hr/>					